

IN THE CLAIMS:

Please amend the claims as follows.

Claim 1 (Currently Amended): A back-illuminated semiconductor device comprising:

a semiconductor substrate, having

a photodetecting unit formed on one surface,

a ~~recess thinned-portion formed by etching a region~~, opposing the photodetecting unit, of another surface,

an outer edge surrounding the recess,

and first electrodes disposed on the one surface at ~~[[an]]~~ the outer edge of ~~the thinned-portion~~ and electrically connected to the photodetecting unit;

a wiring substrate, disposed to oppose the one surface side of the semiconductor substrate and having second electrodes connected via conductive bumps to the first electrodes; and

a resin, filling a gap between the wiring substrate and the outer edge of ~~the thinned-portion~~ to ~~reinforce the strength of bonding of the respective first electrodes and the respective second electrodes~~ with the conductive bumps;

wherein the wiring substrate has a first region and second regions, ~~is subject to a wettability property processing, by which a~~ the first region that ~~surrounds~~ surrounding a region opposing the ~~recess thinned-portion~~ and the second regions that ~~extend~~ extending outward from the first region, ~~wherein the first region and the second regions have lower~~ are lowered in wettability with respect to the resin than the other regions of the wiring substrate, and

the resin surrounds the periphery of the gap between the ~~recess~~ thinned-portion

and the wiring substrate except at the second regions that are portions of the periphery, thereby spaces not filled with the resin are formed above the second regions positioned between the semiconductor substrate and the wiring substrate.

Claim 2 (Currently Amended): The semiconductor device according to Claim 1, wherein ~~as the wettability processing~~[[,]] a silicone resin, a polytetrafluoroethylene, or a wax is coated onto the first region and the second regions of the wiring substrate.

Claim 3 (Withdrawn): A semiconductor device comprising: a semiconductor substrate, having a photodetecting unit formed on one surface, a thinned portion formed by etching a region, opposing the photodetecting unit, of another surface, and first electrodes disposed on the one surface at an outer edge of the thinned portion and electrically connected to the photodetecting unit;

a wiring substrate, disposed to oppose the one surface side of the semiconductor substrate and having second electrodes connected via conductive bumps to the first electrodes; and

a resin, filling a gap between the wiring substrate and the outer edge of the thinned portion to reinforce the strength of bonding of the respective first electrodes and the respective second electrodes with the conductive bumps;

wherein the wiring substrate has formed thereon first protrusions that surrounds a region opposing the thinned portion and second protrusions that extend outward from the first protrusions, and

the resin surrounds the periphery of the gap between the thinned portion and the

wiring substrate except at the second protrusions that are portions of the periphery.

Claim 4 (Withdrawn): The semiconductor device according to any of Claims 1 through 3, wherein the photodetecting unit has a plurality of pixels that are arrayed one-dimensionally or two-dimensionally.

Claim 5 (Withdrawn): The semiconductor device according to Claim 3, wherein the first protrusions are discontinuous at the positions of the second protrusions.

Claim 6 (New): The semiconductor device according to Claim 1, wherein the photodetecting unit has a plurality of pixels that are arrayed one-dimensionally.

Claim 7 (New): The semiconductor device according to Claim 1, wherein the photodetecting unit has a plurality of pixels that are arrayed two-dimensionally.